

## **Miranda Scolari**

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### **Academic Positions**

2016: Assistant Professor, Department of Psychological Sciences, Texas Tech University, Lubbock, TX

2011-2016: Postdoctoral research associate, Princeton Neuroscience Institute, Princeton University, Princeton NJ; Advisor: Dr. Sabine Kastner

### **Education**

2008-2012: Ph.D., Department of Psychology, University of California, San Diego (UCSD), La Jolla CA. Advisor: Dr. John Serences

2007-2008: Department of Cognitive Sciences, University of California, Irvine (UCI), Irvine CA. Advisor: Dr. John Serences

2005-2007: M.A., Department of Psychology, University of Oregon (UO), Eugene OR. Advisor: Dr. Edward Awh

2000-2004: B.A. with Magna Cum Laude, Department of Psychology, Willamette University, Salem OR. Advisor: Dr. Mark Stewart

### **Other Research History**

2005: Research Assistant, Oregon Health & Science University under the supervision of Dr. Ryan Olson

2004: Student Intern, Oregon Health & Science University under the supervision of Dr. Kent Anger

2002-2004: Research Assistant, Willamette University under the supervision of Dr. Mark Stewart

### **Support**

2013-Present: NIH 2T32MH065214-11, NRSA Training Grant in Quantitative Neuroscience, Awarded by the Princeton Neuroscience Institute, Princeton University

### **Awards & Honors**

Aug 2010: Student Award, European Conference on Visual Perception

May 2010: Student Award, Vision Sciences Society

2007: Graduate Fellowship, University of California, Irvine, School of Social Sciences

2004: Member of Phi Beta Kappa, Willamette University Chapter

2004: Department Honors, Psychology Dept., Willamette University  
2003: Carson Undergraduate Research Grant recipient, Willamette University

## **Publications**

**Scolari, M.**, Seidl-Rathkopf, K. & Kastner, S. (2015). Functions of the human frontoparietal attention network: Evidence from neuroimaging. *Current Opinion in Behavioral Sciences*.

**Scolari, M.**, Ester, E. F. & Serences, J. T. (2014). Feature- and object-based attentional modulation in the human visual system. In: *The Oxford Handbook of Attention* (A.C. Nobre & S. Kastner, Eds).

**Scolari, M.**, Byers, A. & Serences, J. T. (2012). The precision of top-down attentional gain in early visual cortex. *Journal of Neuroscience*, 32, 22, 7723-7733.

Umemoto, A., **Scolari, M.**, Vogel, E. K. & Awh, E. (2010). Statistical learning induces discrete shifts in the allocation of working memory resources. *Journal of Experimental Psychology: Human Perception & Performance*, 36, 6, 1419-1429.

**Scolari, M.** & Serences, J. T. (2010). Basing perceptual decisions on the most informative sensory neurons. *Journal of Neurophysiology*, 104, 4, 2266-2273.

Williamson, K., **Scolari, M.**, Jeong, S. K., Kim, M.-S. & Awh, E. (2009). Experience-dependent changes in the topography of visual crowding. *Journal of Vision*, 9, 11, 1-9.

**Scolari, M.** & Serences, J. T. (2009). Adaptive allocation of attentional gain. *Journal of Neuroscience*, 29, 38, 11933-11942.

Serences, J. T., Saproo, S., **Scolari, M.**, Ho, T. & Muftuler, T. (2009). Estimating the influence of attention on population codes in human visual cortex using voxel-based tuning functions. *NeuroImage*, 44, 1, 223-231.

Serences, J., **Scolari, M.** & Awh, E. (2009). Online response-selection and the attentional blink: Multiple-processing channels. *Visual Cognition*, 17, 4, 531-554.

**Scolari, M.**, Vogel, E. K. & Awh, E. (2008). Perceptual expertise enhances the resolution but not the number of representations in working memory. *Psychonomic Bulletin & Review*, 15, 1, 215-222.

**Scolari, M.**, Kohnen, A., Barton, B. & Awh, E. (2007). Spatial attention, preview, and popout: Which factors influence critical spacing in crowded displays? *Journal of Vision*, 7, 2, 1-23.

Manuel, J. C., Sunseri, M. A., Olson, R. & **Scolari, M.** (2007). A diagnostic approach to increase reusable dinnerware selection in a cafeteria. *Journal of Applied Behavior Analysis*, 40, 2, 301-310.

### **Forthcoming Manuscripts (data collection complete)**

Scolari, M. & Kastner, S. (*in preparation*). Mechanisms of attentional control in frontoparietal cortex across spatial positions.

### **Scientific Conference Abstracts**

Scolari, M & Kastner, S. (Nov 2014). "Topographic subunits of the attentional control network are differentially modulated by cue validity." Talk to be presented at Society for Neuroscience annual meeting, Washington, DC.

Scolari, M. & Kastner, S. (May 2014). "Cue validity differentially modulates subunits of the attentional control network." Poster presented at Vision Sciences Society annual meeting, St. Pete Beach, FL.

Scolari, M., Pinsk, M. A. & Kastner, S. (Nov 2013). "Dissociating the contributions of attentional control subunits during object-based spatial selection." Poster presented at Society for Neuroscience annual meeting, San Diego, CA.

Scolari, M. & Kastner, S. (May 2013). "Mechanisms of attentional control in fronto-parietal cortex across spatial positions." Talk presented at Vision Sciences Society annual meeting, Naples, FL.

Scolari, M., Abuyo, T. & Serences, J. T. (May 2012). "Switching between optimal feature-based attentional gain patterns based on task demands." Poster presented at Vision Sciences Society annual meeting, Naples, FL.

Byers, A., Scolari, M. & Serences, J. T. (Nov 2011). "Filtering irrelevant information during perceptual decision-making." Poster presented at Society for Neuroscience annual meeting, Washington, DC.

Scolari, M. & Serences, J. (May 2011). "Testing the flexibility of top-down attentional gain in early visual cortex." Talk presented at Vision Sciences Society annual meeting, Naples, FL.

Scolari, M. & Serences, J. (Mar 2011). "Testing the flexibility of top-down attentional gain in early visual cortex." Talk presented at SoCal Cognitive Neuroscience meeting, UCI.

Scolari, M. & Serences, J. (Aug 2010). "Perceptual decisions are based on the most informative sensory neurons." Talk presented at European Conference on Visual Perception annual meeting, Lausanne, Switzerland.

- Scolari, M. & Serences, J. (May 2010). "Gain in the most informative sensory neurons predicts task performance." Talk presented at Vision Sciences Society annual meeting, Naples, FL.
- Scolari, M., Wu, L., Panzer, N., Torres, L. & Serences, J. (Nov 2009). "Estimating sensory gain during the maintenance period of visual working memory." Poster presented at Psychonomics annual meeting, Boston, MA.
- Scolari, M. & Serences, J. (May 2009). "Assessing sensory gain during the maintenance of information in working memory." Poster presented at Vision Sciences Society annual meeting, Naples, FL.
- Awh, E., Scolari, M. & Ishikawa, J. (May 2008). "Object-based biased competition during covert spatial orienting." Talk presented at Vision Sciences Society annual meeting, Naples, FL.
- Umemoto, A., Scolari, M., Vogel, E. & Awh, E. (May 2008). "Implicit knowledge biases encoding into visual working memory." Poster presented at Vision Sciences Society annual meeting, Naples, FL.
- Scolari, M. & Serences, J. (May 2008). "Estimating the shape of the feature-based attentional gain function." Poster presented at Vision Sciences Society annual meeting, Naples, FL.
- Scolari, M., Vogel, E. K. & Awh, E. (Nov 2007). "Perceptual expertise enhances the resolution but not the number of representations in working memory." Poster presented at Psychonomics annual meeting, Long Beach, CA.
- Scolari, M., Ishikawa, J. & Awh, E. (Aug 2007). "Attention biases competition between individuated objects." Talk presented at Cognitive Science Association for Interdisciplinary Learning (CSAIL) annual meeting, Hood River, OR.
- Scolari, M., Kohnen, A., Barton, B. & Awh, E. (May 2007). "Attention does not influence critical spacing." Poster presented at Vision Sciences Society annual meeting, Sarasota, FL.
- Scolari, M., Kohnen, A., Barton, B. & Awh, E. (Aug 2006). "Spatial attention, preview, and popout: Can diminished crowding effects be explained by reductions in critical spacing?" Poster presented at CSAIL annual meeting, Hood River, OR.
- Scolari, M.R., Schroeder, A. L. & Stewart, M. T. (Apr 2004) "The impact of synesthetic photisms on memory for words." Poster presented at the Western Psychological Association annual meeting, Phoenix, AZ.
- Scolari, M.R., Schroeder, A. L. & Stewart, M. T. (Feb 2004) "Synesthesia and memory for colored words." Talk presented at the Oregon Academy of Science annual meeting, Portland State University, Portland, OR.

## **Other Presentations**

- Scolari, M. (Jan 2015). "Guiding what we see: Top-down attention in the human visual system." Invited talk presented at the Department of Psychological Sciences Colloquium, Texas Tech University, Lubbock, TX.
- Scolari, M. (Oct 2014). "Space-based attentional control in human frontoparietal cortex." Invited talk presented at the CogLunch seminar series, Department of Psychology/Princeton Neuroscience Institute, Princeton University, Princeton, NJ.
- Scolari, M. (Aug 2014). "Space-based attentional control in topographic subregions of human frontoparietal cortex." Invited talk presented at the Cognitive Control Lab (PI: Andrew Leber) and the Vision & Cognitive Neuroscience Lab (PI: Julie Golomb) meeting, Department of Psychology, The Ohio State University, Columbus, OH.
- Scolari, M., Pinsk, M. A. & Kastner, S. (Nov 2013). "Dissociating the contributions of attentional control subunits during object-based spatial selection." Talk presented at Imaging Meeting, Princeton University, Princeton Neuroscience Institute, Princeton, NJ.
- Scolari, M. & Serences, J. (Jul 2011). "Testing the flexibility of top-down attentional gain." Talk presented at the Department of Psychology Graduate Talk Series, UCSD.
- Scolari, M. & Serences, J. (Oct 2010). "Perceptual decisions are based on the most informative sensory neurons." Talk presented at Cognitive Neural Systems Seminar, UCSD.
- Scolari, M. & Serences, J. (Sep 2010). "Perceptual decisions are based on the most informative sensory neurons." Invited talk presented at the Neuroimaging Lab (PI: Zoltán Vidnyánsky) meeting, Information Technology Department, Pázmány Péter Catholic University, Budapest, Hungary.
- Scolari, M. & Serences, J. (Dec 2008). "Perceptual consequences of individual differences in attentional gain." Invited talk presented at the Systems Neurobiology Laboratory (PI: John Reynolds) meeting, Salk Institute, La Jolla, CA.
- Scolari, M. & Serences, J. (Apr 2008). "Individual differences in attentional strategy based on modulation of the gain function." Talk presented at the Center for Cognitive Neuroscience quarterly meeting, UCI.
- Schroeder, A. L. & Scolari, M.R. (Mar 2004) "Perception and memory in grapheme-color synesthesia." Talk presented at the annual Student Scholarship Recognition Day, Willamette University, Salem, OR.

## **Ad-hoc Reviewer**

*Attention, Perception & Psychophysics*  
*Frontiers in Cognitive Science*

*Journal of Experimental Psychology: General*  
*Journal of Experimental Psychology: Human Perception & Performance*  
*Journal of Neuropsychologia*  
*Journal of Neuroscience*  
*Perceptual & Motor Skills*  
*Psychonomic Bulletin & Review*

### **Professional Affiliations**

Vision Sciences Society  
Society for Neuroscience

### **Teaching Experience**

Fall 2016:  
Instructor, *Cognition*, Texas Tech University

Fall 2014:  
Guest Speaker, *Introduction to Psychology*, Princeton University, Supervisor: Dr. Elizabeth Gould

Spring 2013:  
Lecturer, *Introduction to Cognitive Neuroscience*, Princeton University, Supervisor: Dr. Yael Niv

Winter 2011:  
Teaching Assistant, *Physiological Psychology*, UCSD, Supervisor: Dr. Karen Dobkins

Fall 2010:  
Teaching Assistant, *Cognitive Psychology*, UCSD, Supervisor: Dr. Timothy Slattery

Summer 2010:  
Teaching Assistant, *Sound & Music Perception*, UCSD, Supervisor: Kevin Dooley

Spring 2010:  
Teaching Assistant, *Cognitive Psychology*, UCSD, Supervisor: Dr. Minna Ng

Winter 2010:  
Teaching Assistant, *General Psychology: Biological Foundations*, UCSD, Supervisor: Margarete Burd

Fall 2009:  
Guest Speaker, *Undergraduate Seminar*, UCSD, Supervisor: Margarete Burd

Summer 2009:  
Instructor, *General Psychology: Cognitive Foundations*, UCSD

Spring 2009:  
Teaching Assistant, *Cognitive Psychology*, UCSD, Supervisor: Dr. David Peterzell

Fall 2008:  
Teaching Assistant, *General Psychology: Cognitive Foundations*, UCSD, Supervisor: Dr. David Peterzell

Winter 2008:  
Teaching Assistant, *Computer Research in Social Sciences*, UCI, Supervisor: Dr. Rebecca Brandy Griffin

Fall 2007:

Teaching Assistant, *Introduction to Psychology*, UCI, Supervisor: Dr. Lawrence Howard  
Winter 2007, Spring 2007:  
ERP Technique Instructor, UO, Supervisor: Dr. Edward Awh  
Fall 2006:  
Guest Speaker, *Honors Mind & Brain*, UO, Supervisor: Dr. Edward Awh  
Winter 2006:  
Teaching Assistant, *Perception*, UO, Supervisor: Dr. Margaret Sereno

## **Undergraduate Student Mentoring**

### *Independent projects:*

Dillon Sharp (co-mentored with Jiye Kim)  
Undergraduate Senior Research Thesis, Princeton University, 2014  
Thesis title: “Compensatory Neural Mechanisms in Unaffected Siblings of Those with Autism: An fMRI Study.”

### *Research Assistants:*

University of Oregon: Brian Barton, Tara Sprague, Akina Umemoto, Adam White

UCSD: Newton (Tony) Abuyo, Jared Bandifallah, Haddas Elisha, Nicole Panzer, Chris Reinert, Ivan Ruiz, Laura Torres, Lilly Wu, Dorothy Yen

## **Community Outreach**

2013 Presenter, Young Women’s Conference in Science, Technology, Engineering & Mathematics, Princeton, NJ. <http://www.pppl.gov/education/science-education/programs/YWC>

2013-2014 Mentor, Science Action, Princeton University, Princeton, NJ.  
<http://www.princeton.edu/scienceaction/>

## **References**

Edward Awh, Ph.D.  
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